

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY**

**FOR
GLOBAL FIXED INCOME PROGRAM**

April 21, 2008

This policy is effective immediately upon adoption and supersedes all previous Global Fixed Income Program, Dollar-Denominated Fixed Income Program, Externally Managed Active International Fixed Income Program, and Foreign Debt policies.

I. PURPOSE

The CalPERS Total Fund Statement of Investment Policy adopted by the CalPERS Investment Committee ("Committee"), sets forth CalPERS' overarching investment purposes and objectives with respect to all its investment programs.

This document sets forth the investment policy ("Policy") for the Global Fixed Income Programs ("GFI Programs"). The design of this Policy ensures that investors, managers, consultants, and other participants selected by the California Public Employees' Retirement System ("CalPERS") take prudent and careful action while managing the GFI Programs. Additionally, use of this Policy assures sufficient flexibility in managing investment risks and returns associated with the GFI Programs.

This Policy is the controlling document for the following Programs:

- A. Attachment A – Dollar-Denominated Fixed Income Program (Domestic Program);
- B. Attachment B – Active International Fixed Income – Externally Managed (International Program); and
- C. Attachment C – Foreign Debt Policy

II. STRATEGIC OBJECTIVE

The Programs shall be managed to accomplish the following:

- A. Diversify CalPERS overall investment programs;
- B. Dampen the overall risk of CalPERS' investment programs; and
- C. Enhance CalPERS' total returns.

III. RESPONSIBILITIES

A. CalPERS' Investment Staff ("Staff") is responsible for the following:

1. All aspects of portfolio management and oversight including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.
2. Reporting on the performance and risk metrics for each individual Program to the Committee, at least annually for externally managed, and quarterly for internally managed GFI Programs.
3. Monitoring internal and external managers in the implementation of, and compliance with, the Policy. Staff shall report, concerns, problems, material changes, and all violations of Policies at the next Committee meeting, or sooner if deemed necessary. These reports shall include explanations of the violations and appropriate recommendations for corrective action.

B. The General Pension Consultant ("Consultant") is responsible for:

Monitoring, evaluating, and reporting at least annually, to the Committee, on the performance of the GFI Programs relative to the appropriate benchmarks and the Policy.

C. For those GFI Programs managed by an External Manager(s) ("Manager(s)"), the Manager is responsible for all aspects of portfolio management and shall also fulfill the following duties:

1. Communicate with Staff as needed regarding investment strategy and investment results.
2. Monitor, analyze, and evaluate performance relative to the agreed upon benchmark.
3. Cooperate fully with CalPERS' Staff, Custodian, and Consultant concerning requests for information

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

The specific performance objective and benchmark for each GFI Program is detailed in the appropriate attachment.

V. INVESTMENT APPROACHES AND PARAMETERS

The specific Investment Approaches and Parameters for each GFI Program are detailed in the appropriate attachment.

VI. CALCULATIONS AND COMPUTATIONS

Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations on a market value basis as recorded by CalPERS' Custodian, unless otherwise provided in attachments.

VII. GLOSSARY OF TERMS

Key words used in the policy and attachments are defined in CalPERS' Master Glossary of Terms.

Global Fixed Income Program

Approved by the Policy Subcommittee: April 21, 2008

The following attachments were previously individual policies and are now consolidated into the Global Fixed Income Program policy. The dates below reflect the revision history for each document

Attachment A – Dollar-Denominated Fixed Income Program:

Approved by the Policy Subcommittee: September 14, 2001
Adopted by the Investment Committee: November 13, 2001
Revised by the Policy Subcommittee: September 10, 2004
Approved by the Investment Committee: October 18, 2004
Revised by the Policy Subcommittee: September 16, 2005
Approved by the Investment Committee: October 17, 2005
Revised by the Policy Subcommittee: December 14, 2007
Approved by the Investment Committee: February 19, 2008

Attachment B – Externally Managed Active International Fixed Income:

Approved by the Policy Subcommittee: August 11, 1999
Adopted by the Investment Committee: October 18, 1999
Revised by the Policy Subcommittee: June 11, 2004
Approved by the Investment Committee: August 16, 2004
Revised by the Policy Subcommittee: September 16, 2005
Approved by the Investment Committee: October 17, 2005
Revised by the Policy Subcommittee: April 13, 2007
Approved by the Investment Committee: May 14, 2007

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY**

**FOR
DOLLAR-DENOMINATED FIXED INCOME PROGRAM**

~~February 19, 2008~~April 21, 2008

~~This Policy is effective immediately upon adoption and supersedes all previous dollar denominated fixed income investment policies.~~

I. ~~PURPOSE~~

~~This document sets forth the investment policy ("the Policy") for Dollar Denominated Fixed Income Program ("the Program"). The design of this Policy ensures that investors, managers, consultants, or other participants selected by the California Public Employees' Retirement System ("the System") take prudent and careful action while managing the Program. Additionally, use of this Policy provides assurance that there is sufficient flexibility in controlling investment risks and returns associated with this segment of the market.~~

II. ~~STRATEGIC OBJECTIVE~~

~~Achieving the highest total rate of return possible, consistent with a prudent level of risk and the liabilities of the System is the strategic objective of the Program.~~

~~The Program shall be managed to accomplish the following:~~

- ~~A. Diversify the System's overall investment Program;~~
- ~~B. Consider solely the interest of the System's participants and their beneficiaries in accordance with California State Law;~~
- ~~C. Hedge against a long duration accrued liability; and~~
- ~~D. Enhance the System's total return.~~

III. ~~RESPONSIBILITIES~~

- ~~A. The **System's Investment Committee** ("the Investment Committee") is responsible for approving and amending the Policy. The Investment Committee delegates the responsibility for administering the Program to the Investment Staff through the Delegation of Authority (Delegation Nos. 89-13 and 95-50).~~

B. ~~The System's Investment Staff's ("the Staff") duties include, but are not limited to, the following:~~

~~1. Developing and recommending the Policy to the Investment Committee;~~

~~2. Developing and maintaining a procedures manual, subject to periodic reviews and updates, outlining Staff operational procedures used in implementing this Policy;~~

~~3. Implementing and adhering to the Policy;~~

~~4. Auditing the securities trading activities of portfolio managers and traders by the Senior Investment Officer, Fixed Income;~~

~~5. Reporting immediately all violations of the Policy to the Chief Investment Officer and at the next quarterly report to the Investment Committee with explanations;~~

~~6. Hiring external money managers upon approval or direction of the Investment Committee;~~

~~7. Purchasing only securities outlined in the Policy;~~

~~8. Reporting to the System's Investment Committee at least quarterly about the domestic internal fixed income portfolio characteristics on the following issues:~~

~~a. Relative duration;~~

~~b. Sector weightings; and~~

~~c. An exceptions report that covers Policy violations.~~

~~9. Reporting internally to senior management concerning the implementation of this Policy. This report shall be prepared monthly to include, but is not limited to, the following areas:~~

~~a. Current market value and allocations by sector compared to the Index;~~

~~b. Aggregate and individual portfolio characteristics (including duration) compared to guidelines;~~

~~c. An exceptions report that covers Policy violations.~~

10. ~~Recommending action with respect to the external manager(s) retained to implement the Program, in accordance with the Policy or with respect to changes in the manager's contractual guidelines, or regarding any other aspect the Staff considers pertinent; and~~
 11. ~~Reporting to the Investment Committee on the performance of the Program as needed and monitoring implementation of, and compliance with, the Policy.~~
- ~~C. The **External Manager(s)** ("manager(s)") are responsible for all aspects of portfolio management as set forth in their respective contracts with the System and shall fulfill the following duties:~~
1. ~~Communicate with the Staff as needed regarding investment strategy and investment results. The manager(s) are expected to monitor, analyze, and evaluate performance relative to the agreed upon benchmark; and~~
 2. ~~Cooperate fully with the Staff, the System's custodian and the General Pension Consultant concerning requests for information.~~
- ~~D. The **General Pension Consultant** is responsible for monitoring, evaluating, and reporting to the Investment Committee, at least quarterly, about the internally and externally managed fixed income performance relative to the benchmark and Policy guidelines.~~

~~IV. **MANAGER EVALUATION**~~

- ~~A. The ongoing evaluation of investment managers includes both qualitative and quantitative reviews of the firms. Qualitative monitoring involves reviewing the following organizational aspects:~~
1. ~~Ownership;~~
 2. ~~Staffing;~~
 3. ~~Growth;~~
 4. ~~Client service;~~
 5. ~~Investment approach;~~
 6. ~~Business risk; and~~
 7. ~~Regulatory issues.~~

B. Quantitative monitoring requires analysis of the implementation of the investment approach:

1. Investment style;
2. Performance; and
3. Portfolio risk.

Staff shall develop and maintain specific watch list criteria detailing the qualitative and quantitative factors to evaluate managers.

When the evaluation and monitoring of managers has deteriorated, and it appears likely to affect long-term overall performance, the manager shall be placed on Watchlist Status or considered for Dismissal.

Watchlist Status — Indicates a level of concern the degree of which shall be unique to each situation and quantified by Staff to the Investment Committee. This level of concern can range from minor to major deficiencies. A recommendation for Watchlist Status shall designate a period of time to assess the capabilities and quality of a Manager's operations and include more frequent contact with the firm to monitor closely the conditions that led to the Watchlist Status. Managers placed on Watchlist Status shall be requested to submit a Plan of Action to address the deficiencies and shall typically remain on Watchlist Status for performance-related issues or organizational changes for up to one year to ensure that outstanding issues are resolved. Managers who do not correct outstanding issues in a timely manner shall be considered for Dismissal.

Dismissal — Staff shall recommend Dismissal of a manager if adequate improvement in the areas outlined in the Plan of action has not been made; however, Staff may recommend Dismissal for any reason upon thirty days' notice to the manager.

From time to time, managers may not incur Watchlist Status (because performance slightly exceeds the benchmark), but may not have met their performance objective (expected excess return over the benchmark) as specified in their Investment Management Guidelines. In cases where the benchmark return is surpassed, but expected excess return has not been earned during a significant period of time (three years), Staff may recommend Watchlist Status.

I.V. PERFORMANCE OBJECTIVE AND BENCHMARK

The performance objective for the Dollar-Denominated Fixed Income Program ("Domestic Program") is to Exceed the return of the Lehman Brothers Long Liabilities Index ("LLL Index") while maintaining a high level of diversification.

The benchmark for the Domestic Program shall be the LLL Index, which was developed by CalPERS and Lehman Brothers to reflect the long liability nature of CalPERS.

II.VI. INVESTMENT APPROACHES AND PARAMETERS

A. Investment Approach

Staff will identify opportunities across [bond](#) market sectors and invest where risks are both understood and manageable while complying with specifications in this Policy. [Corporate](#), sovereign, and [mortgage-backed securities](#) may receive a greater allocation than the LLL Index given the higher return expectations. Studies indicate that optimal sector allocations in fixed income favor corporate and mortgage-backed securities over U.S. Treasuries and Agencies relative to the LLL Index. These studies, along with CalPERS's low liquidity needs, serve as the foundation for a strategy that sacrifices the quality and liquidity of U.S. Treasuries for higher returning corporates, mortgages, and [sovereigns](#). Low liquidity requirements are derived from the high positive cash flow of the current allocation (when including income from investments). Equally important for management of the ~~Fixed Income~~Domestic Program is flexibility in managing durations. In general, the program is expected to remain duration-neutral to the LLL Index unless real returns and [economic analysis](#) dictate otherwise. This flexibility is expected to add value versus a passive approach.

B. Specific Risk Parameters

~~CalPERS~~The System shall manage the following major categories of fixed income risk:

1. ~~Benchmark Risk addresses whether the LLL Index is the appropriate reference point for fixed income~~Benchmark Risk was reviewed by the Consultant who determined that the LLL Index is the appropriate reference point.
2. ~~Interest Rate Risk is the price volatility produced by changes in the overall level of interest rates as measured by an option-adjusted duration~~must be controlled using duration management. Duration shall be maintained at $\pm 20\%$ of the LLL Index on an option-adjusted basis. Decisions shall be managed in a controlled manner using historical [real return relationships](#) and economic analysis.
3. ~~Yield Curve Risk is the price changes induced by the changing slope of the yield curve.~~Yield Curve Risk must~~shall~~ be managed in a

controlled, disciplined fashion by monitoring key rate durations and [principal component analysis](#).

4. ~~Convexity Risk is the downside risk of an equal move up or down in interest rates, causing greater price loss than price gain. Convexity Risk must~~ shall be managed using [option-adjusted](#) and [scenario analyses](#).
5. ~~Sector Risk is the risk of holding sectors proportionally different from the LLL Index. Sector Risk must be controlled using the ranges below.~~ Based on the economic outlook, [historical factors](#), and [break-even analysis](#), Staff shall estimate the impact on various sectors' spreads and make allocations accordingly.

Sector Ranges:- The following are ranges by which actual allocations can fluctuate from the benchmark sector weightings:

TOTAL DOMESTICFIXED INCOME PORTFOLIO PROGRAM WEIGHTINGS

Sector	LLL Index	Permitted Sector Ranges
U.S. Treasury & Government Sponsored	40%	0% - 80%
Mortgage	30%	10% - 60%
Corporate	24%	10% - 50%
Opportunistic	3%	0% - 20%
Sovereign	3%	0% - 15%
Total	100%	N.A.

6. ~~Credit Risk is the uncertainty surrounding the borrower's ability to repay its obligations. Credit Risk must be controlled by requiring minimum ratings by sector as outlined below in Section II.B.6.a-d.~~ Credit ~~Risk must~~ shall be actively managed on a risk/return basis. A downgrading of a [security](#), which causes a violation of the guidelines, shall not require an immediate sale if the Senior Investment Officer of Global Fixed Income believes-determines that no further risk of credit deterioration exists or the sale diminishes the total return to CalPERS~~the System~~. The CalPERS' internal research ~~Staff~~ staff and the external rating agencies shall analyze such situations to ensure that an informed decision is made. The following is the minimum quality for each of the sectors.

a. Treasury & Government Sponsored

Interest rate swaps are allowable and excluded from the minimum credit calculation. All swaps must comply with Section ~~IXIII.AD.~~ AD. of this Policy.

b. Investment Grade Corporate

- 1) Holdings in the investment grade corporate sector shall, at a minimum, be rated investment grade by a recognized credit rating agency (at least Baa3 by Moody's or BBB- by S&P~~Standard & Poor's~~ or by Fitch Ratings). This sector includes both domestic and foreign U.S. dollar and hedged into U.S. dollars public utilities, transportation, industrials, and bank and finance companies.
- 2) Non-rated bonds ~~shall~~must receive an investment grade rating (BBB- or above) from the CalPERS internal research staff at the time of purchase. The CalPERS' internal research staff shall review at least annually all corporate issuers, where the investment decision was driven by the attractiveness of the individual issuer. Where the investment in corporate bonds is driven by a favorable macro-view of the corporate sector versus either Treasuries or mortgages, the annual review of issuers shall not apply, as credit risk shall be managed through extensive issue diversification and industry constraints to minimize event and idiosyncratic risk.
- 3) The corporate sector ~~will~~may include credit mortgages. All credit mortgages ~~shall~~must receive an investment grade rating (BBB- or above) from the CalPERS' internal research staff at the time of purchase and shall be reviewed at least annually.
- 4) Investment grade Local Currency debt of corporations ~~shall~~must meet the requirements of the Foreign Debt Policy (Attachment G-AC).

c. Mortgage

- 1) Holdings in the mortgage sector ~~shall~~must at a minimum be rated investment grade by a recognized credit rating agency (at least Baa3 by Moody's or BBB- by S&P~~Standard & Poor's~~ or by Fitch). This category

includes mortgage-backed and [asset-backed securities](#). Additionally, it includes commercial mortgages where the primary focus for rating purposes is the underlying collateral and leases.

- 2) Non-rated bonds ~~shall~~ must receive an investment grade rating (BBB- or above) from the CalPERS' internal research staff at the time of purchase. Staff shall review each investment at least annually.

d. Sovereign

- 1) Holdings in the sovereign sector ~~shall~~ must at a minimum be rated investment grade by a recognized credit rating agency (at least Baa3 by Moody's or BBB- by ~~S&P~~ Standard & Poor's or by Fitch Ratings).
- 2) All sovereign securities ~~shall~~ must be U.S. dollar-denominated or non-dollar securities hedged into U.S. dollars. All holdings ~~shall~~ must meet the requirements of the Foreign Debt Policy (Attachment AC).

7. ~~Structure Risk arises from the options implicit in bonds (e.g., callable and optional sinking fund bonds) or the rules governing cash flow that differs from expectations. Structure risk~~ Risk must ~~shall~~ be managed using option-adjusted scenario and [prepayment analysis](#).
8. ~~Reinvestment Risk is the uncertain future yield opportunities for investing funds that become available due to call, maturity, or coupon payments. Reinvestment risk~~ Risk must ~~shall~~ be managed through [call risk](#) and cash flow analysis.
9. ~~Liquidity Risk is reduced due to CalPERS' strong cash flow. Liquidity risk is the ease with which an issue or specified amount can be sold at or near prevailing market prices. Considering CalPERS' the System's strong cash flow due to the current allocation, few liquidity constraints on CalPERS the System exist.~~
10. ~~Currency Risk is the price volatility emanating from the value of the U.S. dollar relative to other currencies of the world. To eliminate this risk, Currency Risk is reduced by requiring all securities shall to be~~ denominated or hedged into U.S. dollars.

C. Restrictions and Prohibitions

1. Except for U.S. Treasuries and Agencies, investments in a single issuer shall not exceed 2% of the ~~total dollar-denominated Fixed Income Domestic~~ Program. For asset-backed securities, each separate trust (pool of assets) is defined as a separate issuer. For AAA rated mortgage-backed securities, CalPERS High Quality LIBOR, CalPERS Short Duration Program Fund, and Short Term Investment Program F, no single issuer limit exists.
2. Total non-investment grade securities shall not exceed a maximum of 20% of the ~~total dollar-denominated fixed income p~~Domestic Program. Sub-sector limits are as follows:
 - a. Non-investment grade corporate securities shall must not exceed 15% of the total ~~dollar-denominated fixed income program~~Domestic Program.
 - b. Non-investment grade mortgage securities shall must not exceed 10% of the total ~~dollar-denominated fixed income program~~Domestic Program.
 - c. Non-investment grade sovereign securities shall must not exceed 5% of the total ~~dollar-denominated fixed income program~~Domestic Program.
3. Section ~~VIII~~VIII.B.2 of this Policy specifies the interest Interest rate ~~Rate risk~~Risk parameters.
4. Section ~~VIII~~VIII B.5 of this Policy specifies the ~~sector~~Sector ~~risk~~risk parameters.
5. Non-investment grade collateralized bond, loan, or debt obligations (CBO/CLO/CDO) shall must not exceed a maximum of 5% of the total ~~dollar-denominated fixed income program~~Domestic Program.
6. Tobacco company investments are prohibited.
7. Shorting will be limited to investment grade securities. Section ~~IX~~IX.A.1 of this Policy governs the short selling of securities.

D. Authorized Securities

1. U.S. Treasury and Government Sponsored Securities including derivative securities whose deliverable instrument is a U.S. Treasury or government obligation, but excluding mortgages and mortgage-backed securities (MBS);

2. U.S. Publicly Traded Investment Grade Corporate Bonds;
3. U.S. Privately Placed Investment Grade Corporate Bonds;
4. U.S. Publicly Traded Investment Grade Mortgage-Backed Securities including derivative securities whose deliverable instrument or underlying collateral is a U.S. mortgage-backed security;
5. U.S. Privately Placed Investment Grade Mortgage-Backed Securities including single-family residences, commercial loans, and other privately placed mortgage-backed securities;
6. Investment Grade Asset-Backed Securities;
7. Investment Grade Global bonds;
8. Investment Grade Municipal bonds;
9. Investment Grade Preferred Stock;
910. Investment Grade Non-Dollar Bonds Hedged into U.S. dollars that are consistent with the Foreign Debt Policy (Attachment AC); and
11. Derivatives, subject to the requirements of Section III; and
4012. Opportunistic Securities pursuant to Section XIV.

~~VII. BENCHMARK~~

~~The benchmark for the Program shall be the Lehman Brothers Long Liabilities Index, which was developed by CalPERS and Lehman Brothers to reflect the long liability nature of CalPERS.~~

~~VIII. GENERAL~~

~~Investors, managers, consultants, or other participants selected by the System shall make all calculations and computations on a market value basis as recorded by the System's Custodian.~~

~~III IX. DERIVATIVES AND LEVERAGE POLICY~~

A. Financial Futures, Swaps, and Options

All transactions involving derivatives and leverage are governed by the California Public Employees' Retirement System CalPERS' Statement of Investment Policy for Development of Derivatives Strategies or CalPERS' the

California Public Employees Retirement System Statement of Investment Policy for Derivative-External Money Managers (collectively "Derivatives Policies"). In addition to the restrictions defined in the Derivatives Policies, the following conditions apply:

1. Short selling of securities is allowed in the following areas:
 - a. Financial futures and investment grade indices~~exes~~;
 - b. Investment grade corporate securities or derivatives thereon where the actual cash position of any short securities plus the notional value of any derivatives is subject to a maximum limit of 5% of the total ~~dollar-denominated fixed income~~Domestic program~~Program~~;
 - c. Investment grade sovereign securities or derivatives thereon where the actual cash position of any short securities plus the notional value of any derivatives is subject to a maximum limit of 5% of the total ~~dollar-denominated fixed income~~Domestic program~~Program~~;
 - d. Investment grade mortgage securities or derivatives thereon where the actual cash position of any short securities plus the notional value of any derivatives is subject to a maximum limit of 2% of the total ~~dollar-denominated fixed income~~Domestic Program~~portfolio~~.
2. Leverage is prohibited except when using futures position. When purchasing financial futures, there must be an ~~where there is an~~ associated cash position ~~{which together effectively creates a synthetic bond}~~;
3. The Staff may buy or sell the following fixed income related derivatives: Credit Default Swaps (both on securities (CDS) and indices~~exes~~ (examples are CDX and ABX)), financial futures, options on financial futures, options on volatility, options on underlying securities, and options on securities indices~~exes~~, which includes over-the-counter options (as specified in ~~Part~~Section VIII. D. 1. ~~of this Policy~~); and
4. Acceptable strategies include bona fide hedges (to help achieve the target durations or short positions that stay within the duration and sector range parameters set forth in Section ~~VIII~~VII.B.2 and 5 ~~of this Policy~~) and strategies that exploit the market's erroneous estimation of the volatility of interest rates. Other acceptable strategies include taking advantage of inaccurately priced instruments or using a more

efficient method of implementing the investment objectives of the Portfolio Domestic Program.

B. Collateralized Mortgage Obligations (CMO)

1. Philosophy

CMOs are considered an important strategic tool for fixed income management. They segregate mortgage cash flows into instruments with different risk/return characteristics than the underlying mortgage pools. These instruments shall be purchased when valuations indicate a superior return versus other securities in the fixed income universe. Selected instruments shall generally exhibit positive convexity and superior call protection versus conventional mortgages. They shall only be purchased after performing the appropriate scenario, break-even, option adjusted, and cash flow analyses.

2. Purpose

Use of CMOs shall enhance return opportunities and manage risk at appropriate valuation levels while exercising prudence.

B. Restrictions and Prohibitions

1. Uncovered call writing is prohibited.
2. Speculation or arbitrage between two derivatives is prohibited. If a derivative is more attractively priced than the underlying security, the transaction is considered a substitution.
3. A maximum of 3% of the total fixed income portfolio Domestic Program may be invested in mortgage securities that are leveraged (e.g., inverse floaters).

C. Counterparty Exposure for Options, Swaps and Futures

1. The greater of \$500 million or 25% ~~percent~~ of the total notional derivative exposure can be maintained with any one counterparty for non-exchanged-traded derivatives (e.g., swaps, caps, floors, and options).
2. Transactions shall be executed with only domestic or non-U.S. brokers registered in the U.S. or the U.K. who have a short-term debt rating by at least two of the following three rating agencies:

A1 (~~S&P~~Standard & Poor's) and P1 (Moody's), or F1 (Fitch Ratings), or rated on a long-term basis A3 (Moody's) A- (~~S&P~~Standard & Poor's), or A- (Fitch Ratings Services). The CalPERS internal research staff shall actively review these brokers.

IV.X. OPPORTUNISTIC INVESTMENTS

- A. Securities or sub-asset classes, which are candidates for inclusion, shall have risk, return, and correlation profile sufficiently different from other sectors such that its inclusion or exclusion can affect the risk and return expectations of the ~~Portfolio~~Domestic Program. The criteria for inclusion into this classification shall include, but are not limited to:
1. Sufficient size, liquidity, and cost efficiency to allow a meaningful amount to be invested and have an impact on the total return.
 2. Availability of sufficient internal or external investment and technical expertise to insure prudent implementation of an investment in that sub-asset class.
 3. Presence of diversification, return enhancement, or some other readily identifiable attribute which is sufficiently different from other asset classes and which enhances the ~~Fund's~~Domestic Program's ability to achieve the strategic objectives outlined in this Policy.
 4. Acceptance by other large money managers or financial institutions as a viable and meaningful sub-asset class or in the absence of such acceptance, academic basis or foundation for its inclusion.
 5. Availability of sufficient data, history, or expertise to assess the viability or benefit of the asset class to the ~~Fund~~Domestic Program and to have an investment outcome that is measurable from such an asset class. Further, the asset class must have a basis for developing expected investment return, risk, and correlations for purposes of the financial study.
- B. A sub-asset class may be approved for investment provided that it meets the criteria above and that the Senior Investment Officer of, Global Fixed Income has reviewed educational literature and/or other sources or both to fulfill fiduciary responsibility and has received approval by the Chief Investment Officer.
- C. Permitted Opportunistic Investments

1. Non-Investment Grade Domestic and Hedged Non-Dollar ~~non-investment grade~~ corporate, including corporate zero coupon and [PIK](#) securities;
2. [Leveraged](#) and [Un-leveraged Bank Loans](#);
3. [Asset Based Loans](#);
4. Non-investment grade CBO/CLO/CDO securities;
5. [Convertible Bonds](#);
6. CMO residuals;
7. Non-Investment Grade Dollar Denominated and Hedged Non-Dollar Global Sovereign Debt of countries Bonds hedged into U.S. dollars that ~~meet the requirements in~~ are consistent with the Foreign Debt Policy (Attachment GAC);
8. Non-investment grade mortgage securities; and
9. Other sub-asset classes may be added if they fit Section ~~XIV~~, A and B.

~~XI. GLOSSARY OF TERMS~~

~~Definitions for key words used in this policy are located in the Fixed Income Glossary of Terms which is included in the System's Master Glossary of Terms.~~

Foreign Debt Policy

Global Debt Issued by National Governments

The policy stipulations for global debt issued in major markets differ somewhat for externally managed holdings denominated in major nondollar currencies and for internally managed holdings denominated in the dollar. The differences are found in the approach to limiting portfolio concentration in emerging markets, while minimum credit rating requirements are the same for both. The stipulations are as follows:

For both externally and internally managed portfolios, global bonds issued by national governments must have a credit rating of BB- or higher from S&P or Fitch, or Ba3 or higher from Moody's.

Local-Currency Debt of Foreign National Governments and All Foreign Debt of Corporations and Subnational Governments (i.e., Provincial, State, and Municipal)

1. Both the issuer and the issuer's national government (if the issuer is not the national government itself) must be rated investment grade, at least BBB- by S&P or Fitch, or Baa3 by Moody's. Even in the case of local-currency debt, this requirement must be satisfied by long-term foreign currency ratings instead of local-currency ratings, which are generally higher because a country can easily print more of its own currency to meet its local debt obligations. This unconventional, very conservative application of the rating requirement will give extra protection against the special foreign-exchange valuation and retrieval risks of local-currency debt.
2. The country must be part of the Lehman Global Aggregate Index, a widely followed index which includes only those local markets that are fairly liquid and fairly well developed.
- 3.1. The country's currency must be fully convertible in the spot market for foreign investors, so that managers may retrieve CalPERS' funds without limit or obstruction.

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY**

**FOR
EXTERNALLY MANAGED ACTIVE INTERNATIONAL FIXED INCOME PROGRAM—
EXTERNALLY MANAGED**

May 14, 2007April 21, 2008

~~This policy is effective immediately upon adoption and supersedes all Active International Fixed Income—Externally Managed policies.~~

IV. PURPOSE

~~The CalPERS Total Fund Statement of Investment Policy, adopted by the CalPERS Investment Committee, sets forth CalPERS' overarching investment purposes and objectives with respect to all its investment programs.~~

~~This document sets forth the investment policy ("Policy") for the Externally Managed Active International Fixed Income Program ("the Program"). The design of this Policy ensures that investors, managers, consultants, and other participants selected by the California Public Employees' Retirement System ("CalPERS") take prudent and careful action while managing the Program. Additionally, use of this policy assures sufficient flexibility in controlling investment risks and returns associated with this segment of global capital markets.~~

V. STRATEGIC OBJECTIVE

~~The Program shall be managed to accomplish the following:—~~

- ~~A. Diversify the System's overall Investment Program;~~
- ~~B. Enhance, during a specific period, the total return of the System's Fixed Income Program;~~
- ~~C. Dampen the overall risk of the System's Investment Program; and~~
- ~~D. Consider solely the interests of the System's participants and their beneficiaries in accordance with California State Law.~~

VI. RESPONSIBILITIES

~~A. CalPERS' Investment Staff ("Staff") is responsible for the following:~~

~~1. All aspects of portfolio management including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.~~

~~2. Reporting to the Committee annually and more if needed about the performance of the Program.~~

~~Monitoring the implementation of, and compliance with, the Policy. Staff shall report concerns, problems, material changes, and all violations of Guidelines and Policies immediately~~

~~B. The Wilshire Associates (“Consultant”) is responsible for:~~

~~Monitoring, evaluating, and reporting periodically, to the Committee, on the performance of the Program relative to the benchmark and Policy.~~

~~C. The External Manager (“Manager”) is responsible for all aspects of portfolio management as set forth in each Manager’s contract with CalPERS and shall fulfill the following duties:~~

~~1. Communicate with Staff as needed regarding investment strategy and investment results. The Manager is expected to monitor, analyze, and evaluate performance relative to the agreed upon benchmark.~~

~~2. Cooperate fully with CalPERS’ Staff, Custodian, and Consultant concerning requests for information~~

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

~~The benchmark for Program is to exceed the return of the benchmark while maintaining a high level of portfolio diversification.~~

The performance objective for the Active International Fixed Income Program (“International Program”) is to exceed the benchmark which is the Lehman Brothers International Fixed Income Index (“LIFI Index”).

V. INVESTMENT APPROACHES AND PARAMETERS

A. Approach

1. The International Program ~~fixed income portfolio~~ shall be managed to:

a. ~~m~~ Maximize risk adjusted returns through the selection and allocation of permissible bond markets.

b. Within those markets, manage the selection and allocation of maturities, durations, credits, currencies, and approved derivative instruments.

c. Consider macro and relevant micro-economic factors including, but not limited to, economic growth, inflation, monetary and fiscal policy of ~~eligible~~ permissible countries, the credit risk of market and issuer, and risk-adjusted yields.

2. The ~~Program~~ International Program shall be implemented through the retention of an external ~~Manager~~ manager(s) (“Manager” or “Managers”). ~~External Manager selection shall occur in accordance with Section V Part B. of this Policy.~~

3. Each Manager shall operate under a set of manager specific guidelines that outlines its investment philosophy, representative portfolio characteristics, ~~permissible~~ authorized and restricted securities and procedures, and strategic and performance objectives. All guidelines will be consistent with the Investment Parameters set forth in Section VII, ~~Part C of this document.~~

4. The viability of the ~~Program~~ International Program shall be reviewed annually.

~~5.~~ Implementation of this Program shall comply at all times with the applicable investment policies including, but not limited to the following:

~~a.~~ Investment Derivatives for External Money Managers, except that leverage and shorting will be permitted in accordance with this policy as outlined in Section V Part C and Section V Part D

B. External Manager Selection

~~1.~~ The System shall retain Manager(s) with recognized expertise in the analysis and selection of non-dollar fixed income securities, credit analysis, and currency or approved derivatives. The selected Manager(s) shall be registered with the Securities and Exchange Commission.

~~2.~~ The Manager(s) shall be selected in accordance with the Contract and Procurement Policy.

BG. Specific Risk Parameters

1. Benchmark Risk addresses whether the ~~LIF~~ Lehman International Fixed Income Index (LIFII) is the appropriate reference point. was reviewed by the Consultant who determined that the LIFI Index is the appropriate reference point.

2. **Interest Rate Risk** is the price volatility produced by changes in the overall level of interest rates as measured by option-adjusted duration. Interest Rate Risk shall must be managed by the external Manager within $\pm 35\%$ years of the index duration.
3. **Yield Curve Risk** is generated by the price changes induced by the changing slope of the yield curve. Yield curve risk shall must be managed by the external Manager.
4. **Credit Risk** is the uncertainty surrounding a borrower's ability to repay its obligations. Credit risk is managed by usingspecifying specific credit limits. Minimum credit ratings for sovereign credit are specified in the Foreign Debt Policy (Attachment GAC).
5. **Convexity Risk** is the risk that an equal move up or down in interest rates causes greater price loss than price gain. Convexity risk shall must be managed by the external Manager.
6. **Reinvestment Risk** is the uncertain future yield opportunities for investing funds that become available due to call, maturity or coupon payments. Reinvestment risk shall must be managed by the external Manager.
7. **Liquidity Risk** is the ease with which an issue or specified amount can be sold at or near prevailing market prices. Given CalPERS high cash flow, there is limited need for high liquidity so this risk is minimal. reduced due to CalPERS' strong cash flows.
8. **Currency Risk** is the price volatility arising from changes in the U.S. dollar relative to other currencieswill be controlled using the ranges below.

The following table specifies ranges within which net currency positions may be taken:

Net Currency Ranges Relative to the LIFI Index

Reserve Currency Benchmark Markets (EUR, JPY, GBP)	-30% - +30%
Other Benchmark Countries	-20% - +20%
Non-benchmark countries (ex USD)	-10% - +10%
U.S. dollar	-30% - +30%
Emerging Markets	-5% - +5%

Maximum cumulative long currency exposure	130%
Maximum cumulative short currency exposure	30%

Note: The above ranges apply to individual currencies.

9. ~~Sector Risk is the risk of holding sectors proportionally different from the index~~will be controlled using the ranges below. Managers are responsible for determining appropriate allocations based on market analysis.

Sector Ranges:- The following table specifies ranges within which allocations can fluctuate from benchmark weights:

Total International Program ~~Fixed Income~~ Portfolio Weightings

Sector	<u>LIFI Index</u>	<u>Permitted Index Net Ranges</u>
Governments	100%	70% - 130%
Invest. Grade Corporate	0%	-30% - 30%
Mortgages	0%	0% - 30%
Non-Investment Grade Corporate	0%	0% - 10%

Note: The total of non-government securities cannot exceed 30% of the total portfolio International Program.

10. ~~Country Risk is the risk of holding the securities of countries proportionally different from the LIFI index~~will be controlled using the ranges below. Managers are responsible for determining appropriate country allocations based on market analysis.

Net Country Permitted Ranges- The following table specifies ranges within which country allocations can fluctuate from benchmark weights:

Net Country Range Relative to Index

Reserve Currency Benchmark Markets (EUR, JPY, GBP)	-30% - +30%
Other Benchmark Countries	-20% - +20%
Non-benchmark countries (ex USD)	-10% - +10%
U.S. dollar	-30% - +30%
Emerging Markets	-5% - +5%

Note: The above ranges apply to individual countries.

DC. Restrictions and Prohibitions

1. Emerging Market bond exposure is limited to $\pm 5\%$ of the benchmark weight on a Manager's combined holdings as well as a concentration limit of the benchmark weight $\pm 5\%$ of the benchmark weights on holdings of a single country.
2. Shorting non-investment grade high yield bonds and U.S. mortgage backed securities is prohibited.
3. ~~The m~~Maximum cash bond leverage is 130%. Foreign currency hedges are treated separately in calculating International Program portfolio leverage.
4. ~~The m~~Maximum total portfolio International Program net short bond or currency position is 30%.
5. ~~The Program~~International Program must be compliant with the Foreign Debt Policy, ~~which specifies minimum credit ratings and specific criteria for selecting permissible countries. The Foreign Debt Policy is included as~~ (Attachment GAC).
6. ~~The m~~Maximum net long or net short holdings per corporate issuer is 3% of the total International Program portfolio.

ED. Authorized Securities

1. Investment Grade non-dollar government, subnational governments (i.e. provincial, state, and municipal), and supranational.
2. Non-~~U.S.~~ dollar and U.S. dollar publicly traded investment grade corporate bonds.
3. Non-~~U.S.~~ dollar and U.S. dollar non-investment grade ~~High Yield~~ corporate securities rated BB- ~~by (S-&P)~~ or Ba3 ~~by (Moody's)~~ or BB- ~~by (Fitch)~~ or higher issued in major developed markets.
4. Non-~~U.S.~~ dollar and U.S. dollar non-investment grade sovereign debt securities rated BB- ~~by (S-&P)~~ or Ba3 ~~by (Moody's)~~ or BB- ~~by (Fitch)~~ or higher issued in major developed markets.
5. U.S. Treasury and Government ~~S~~sponsored ~~S~~securities.
6. U.S. dollar Federal National Mortgage Association (FNMA), Federal Home Loan Mortgage Corporation (FHLMC), and Government National Mortgage Association (GNMA) securities.

- i. Structured products denominated in major developed currencies and the U.S. dollar, including but not limited to, ABS, ABL, and CDS.
- ii. Derivatives, subject to the requirements of Section III.

VI. DERIVATIVES AND LEVERAGE POLICY

All transactions involving derivatives managed by external managers are governed by CalPERS's California Public Employees' Retirement System Statement of Investment Policy for Derivatives - External Money Managers, except that leverage and shorting will be permitted in accordance with this Policy as outlined in Sections II, V Part B and Section V Part C.

A. Permitted and Restricted Instruments

4. Managers may buy and sell the following derivatives: currency forward contracts, currency options, swaps, credit default swaps, structured notes, financial futures, options on financial futures, options on volatility, options on underlying securities, options on securities indices, which including over-the-counter options.

B. Counterparty Exposure for Options, Swaps and Futures

1. A ~~Maximum~~ 33% percent of the total notional derivative exposure can be maintained with any one counterparty for non-exchange traded derivatives (e.g., swaps, caps, floors, and options). An exception is allowed if total derivative exposure in the International Program portfolio is less than \$100 million. Where netting agreements approved by CalPERS's System's Chief Investment Officer or his or /her authorized designee are in place with the counter-party, only the net amount applies toward the \$100 million limit.
2. Transactions shall be executed with only domestic or non-U.S. brokers registered in the U.S. or U.K. who have a short-term debt rating by at least two of the following three rating agencies:

A1 (S&P Standard & Poor's) and P1 (Moody's), or F1 (Fitch Rating Service), or rated on a long-term basis A- (S&P Standard & Poor's), A3 (Moody's), or A- (Fitch Rating Services).
3. Counterparty creditworthiness shall equal or exceed "A3" as defined by Moody's or "A-" by S&P. The use of counterparties holding a split rating with one of the ratings below A3/A- is prohibited. Managers shall notify CalPERS if a counterparty is downgraded below A3/A- while an instrument held in the

International Program is outstanding with that counterparty. The use of unrated counterparties is prohibited.

4. Any entity acting as a counterparty shall be regulated in either the United States or the United Kingdom.

B.C. Reporting Requirements

Managers shall prepare a monthly report to Staff for CalPERSthe System outlining the following information:

1. The derivatives and the counterparties used and the market value, cost-value, gain or loss, notional exposure, and amount of exposure;
2. A description of the strategy and the expected outcome of the derivative use; and
3. The quantified impact to the International Programportfolio.

VII. BENCHMARK

The benchmark for this Program is the Lehman Brothers International Fixed Income Index.

X.GENERAL

Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations on a market value basis as recorded by CalPERS' Custodian.

XI.GLOSSARY OF TERMS

Definitions for key words used in this policy are located in the Fixed Income Glossary of Terms which is included in the System's Master Glossary of Terms.

Attachment A

Local Currency Debt of National Governments and All Debt of Corporations and Subnational Governments (i.e. Provincial, State and Municipal)

D. Both the issuer and issuer's national government (if the issuer is not the national government itself) must be rated investment grade, at least BBB- by S&P or Fitch, or Baa3 by Moody's. Even in the case of local currency debt, this requirement must be satisfied by long-term foreign currency ratings instead of local currency ratings, which are generally higher because a country can easily print more of its own currency to meet its local debt obligations. This unconventional, very conservative application of the rating requirement will give extra protection against the special foreign-exchange valuation and retrieval risks of local currency.

E. The country must be part of the Lehman Global Aggregate Index, a widely followed index which includes only those local markets that are fairly liquid and fairly well developed.

F. The country's currency must be fully convertible in the spot market for foreign investors, so that Managers may retrieve CalPERS' funds without limit or obstruction.

G. Holdings of local currency debt are subject to an aggregate limit of the benchmark weight +5% on a Manager's combined holdings of emerging market debt, as well as a concentration limit of the benchmark weight +5% on a Manager's holdings of a single country.

Global Debt Issued by National Governments

The policy stipulations for global debt issued in major markets differ somewhat for holdings denominated in major non-dollar currencies and for holdings denominated in the dollar. The differences are found on the approach to limiting portfolio concentration in emerging markets, while minimum credit rating requirements are the same for both. The stipulations are as follows:

1. For externally managed portfolios, global bonds issued by national governments must have a credit rating of BB- or higher from S&P or Fitch and Ba3 or higher from Moody's.

2. Holdings of global bonds are counted toward the aggregate limit of the benchmark weight +5% on an external Manager's combined holdings of emerging market debt and are subject to the benchmark weight +5% limit on holdings of a single country.

FOREIGN DEBT POLICY**April 21, 2008****Global Debt Issued by National Governments**

The policy stipulations for global debt issued in major markets differ somewhat for externally managed holdings denominated in major non-dollar currencies and for internally managed holdings denominated in the dollar. The differences are found in the approach to limiting portfolio concentration in emerging markets, while minimum credit rating requirements are the same for both. The stipulations are as follows:

For both externally and internally managed portfoliosprograms, global bonds issued by national governments must have a credit rating of BB- or higher from S&P or Fitch, or Ba3 or higher from Moody's.

Holdings of global bonds are counted toward the aggregate limit of the benchmark weight +5% on an external Manager's combined holdings of emerging market debt and are subject to the benchmark weight +5% limit on holdings of a single country.

Local-Currency Debt of Foreign National Governments and All Foreign Debt of Corporations and Subnational Governments (i.e., Provincial, State, and Municipal)

1. Both the issuer and the issuer's national government (if the issuer is not the national government itself) must be rated investment grade, at least BBB- by S&P or Fitch, or Baa3 by Moody's. Even in the case of local-currency debt, this requirement must be satisfied by long-term foreign currency ratings instead of local-currency ratings, which are generally higher because a country can easily print more of its own currency to meet its local debt obligations. This unconventional, very conservative application of the rating requirement will give extra protection against the special foreign-exchange valuation and retrieval risks of local-currency debt.
2. The country must be part of the Lehman Global Aggregate Index, a widely followed index which includes only those local markets that are fairly liquid and fairly well developed.
3. The country's currency must be fully convertible in the spot market for foreign investors, so that managers may retrieve CalPERS' funds without limit or obstruction.
4. Holdings of local currency debt are subject to an aggregate limit of the benchmark weight +5% on a Manager's combined holdings of emerging market debt, as well as a concentration limit of the benchmark weight +5% on a Manager's holdings of a single country.

Asset Class Glossary: Fixed Income
Policy: Global Fixed Income Program
April 21, 2008

Chief Investment Officer

Heads the CalPERS Investment Office and works with the Committee to develop a long-term investment policy and asset allocation strategy for the Public Employees' Retirement Fund.

External Manager

An outside money management firm retained under contract by CalPERS.

General Pension Consultant

An individual or organization that provides specialized professional assistance to the CalPERS Board of Administration in determining the pension fund's asset allocation model or optimal combination of investments in order to maximize risk-adjusted investment returns in a manner consistent with the State's long-term pension liabilities.

Senior Investment Officer of Fixed Income

The Senior Investment Officer is responsible for all Global Fixed Income programs and reports directly to the Chief Investment Officer of CalPERS.

~~Asset Class Glossary: Fixed Income
Policy: Dollar-Denominated Fixed Income Program
April 21, 2008~~

Arbitrage

The simultaneous purchase and sale of two instruments for the purpose of capturing a pricing disparity between them. The instruments do not need correlated price movements.

Asset-Backed Security

A security collateralized by assets such as automobile loans, agricultural equipment loans, and credit card loans. The loans are securitized by the issuer and usually placed with a trustee.

Asset-Based Loans

Secured debt that is loaned to primarily non-investment grade borrowers for mostly working capital, acquisitions, turnarounds, growth financing, debtor-in-possession financing (DIP Financing), exit financing, and corporate recapitalization/reorganizations.

Bond

A unit of debt, \$1,000 of principal or par amount. For 200 years municipal bonds were sold in \$1,000 denominations. Since the mid-1970s the minimum bond denomination has been \$5,000; nevertheless, "A Bond" is bought, sold, referred to, and priced as if it were \$1,000.

Break-Even Analysis

Uses results from the scenario analysis. Since all projections should be viewed as risky, evaluating the sensitivity of the projected return to adverse market movements is critical. The break-even analysis calculates the movement required to reduce the sector or portfolio returns to a specified level at some horizon. This analysis creates a form of risk/return ratio. The higher the break-even value, the more the cushion against an adverse movement in rates.

Call Risk Analysis

Examines the portfolio's callable securities and estimates the amount of principal returned for a given drop in interest rates.

Caps

Designed to provide insurance against the rate of interest on a floating rate loan rising above a certain level (known as the cap rate).

Chief Investment Officer

~~Heads the CalPERS Investment Office and works with the Investment Committee to develop a long-term investment policy and asset allocation strategy for the Public Employees' Retirement Fund.~~

Collateralized Mortgage Obligation

A mortgage-backed security that pools together mortgages and separates the cash flows into short, medium, and long classes (often called tranches), allowing a wider range of risk and return characteristics than in the more homogeneous pass-through market.

Convertible Bond

A bond that has a provision that permits conversion to the issuer's stock at some fixed ratio.

Convexity

The price change from a move in interest rate that cannot be explained by duration only. Positive convexity (when price rises more than expected and falls less) comes at a cost (lower yield). Negative convexity (price rises less than expected and falls more) usually comes with higher yield.

Convexity Risk

Convexity Risk is the downside risk of an equal move up or down in interest rates, causing greater price loss than price gain.

Corporate

Securities issued in the U.S. market by U.S. corporations or foreign corporations (Yankee bonds).

Corporate Sector

As defined by CalPERS' corporate investment managers in BlackRock Solutions, Aladdin product. Examples of sectors include banking, independent finance, diversified telecom, etc.

Country Risk

Country Risk is the risk of holding the securities of countries different from the Index.

Credit Mortgages

Defined as loans or securities that are generally backed by lease structures. The primary underwriting analysis and source of repayment are clearly based on the credit-paying ability of the tenant or the borrower directly as opposed to the income-producing ability of the real estate itself.

Credit Rating

A current opinion of an obligor's overall financial capacity (its creditworthiness) to pay its financial obligations. This opinion focuses on the obligor's capacity and willingness to meet its financial commitments as they come due. In the case of split ratings, the higher rating of either Moody's, Standard & Poor's, or Fitch Investor Services shall apply.

Credit Risk

Credit Risk is the uncertainty surrounding the borrower's ability to repay its obligations.

~~Custodian~~

~~A bank or other financial institution that provides custody of stock certificates and other assets of an institutional investor.~~

Currency Risk

The risk of hedging currency differently than the index.

Custodian

A bank or other financial institution that provides custody of stock certificates and other assets of an institutional investor.

Derivative

An instrument whose value is based on the performance of an underlying financial asset, index, or other investment. Classes of derivatives include futures contracts, options, currency forward contracts, swaps, and options on futures.

~~Dismissal~~

~~Termination of the investment management contract with CalPERS.~~

Duration

A measure of price sensitivity to interest rate changes. Duration is the anticipated percentage move in price given a 100 basis point (1 percent) move in interest rates.

Economic Analysis

Examines reference points for indications on what to look for and what events are considered significant in the economy to understand relationships among complex and often seemingly unrelated events. This analysis is used in making decisions concerning duration and sector weightings.

Event Risk

The risk that the credit quality of a bond will drop suddenly because of some event like a takeover.

External Manager

~~An outside money management firm retained under contract by CalPERS.~~

Financial Futures

A contract to trade a financial investment, like a Treasury bond, at a specific price and future date. As interest rates rise or fall, the value of such contract falls or rises respectively.

Fitch Ratings

A nationally-recognized credit rating agency that grades the investment quality of bonds in a 10-symbol system. The ranges extend from the highest investment quality, which is AAA, to the lowest credit rating, which is D. Securities rated BBB- or greater are considered investment-grade. Securities rated BB+ or below are considered to be speculative.

Floors

Provide insurance against rate of interest on a floating rate loan dropping below a certain level.

Futures

Exchange-traded contracts to buy or sell a standard quantity of a given instrument, at an agreed price, and date. A future differs from an option in that both parties are obliged to abide by the transaction. Futures are traded on a range of underlying instruments including commodities, bonds, currencies, and stock indices.

General Pension Fund Consultant

~~An individual or organization that provides specialized professional assistance to the CalPERS Board of Administration in determining the pension fund's asset allocation model or optimal combination of investments in order to maximize risk-adjusted investment returns in a manner consistent with the State's long-term pension liabilities.~~

Government Sponsored Securities

Issuer that benefits from sponsorship with or underlying guarantee from a single or multiple sovereign or regional government entity.

Hedge (Hedging)

A strategy used to offset investment risk. A perfect hedge is one eliminating the possibility of future gain or loss.

High Quality LIBOR

A limited-duration, highly liquid, LIBOR-based fund managed by CalPERS staff.

Historical Factors

A review of past relationships and the environment associated with them to assess the relative investment potential of the current market conditions and relationships.

Idiosyncratic Risk

Risk particular to an individual or group of issuers.

Inverse Floaters

A derivative instrument with a coupon rate, which cannot go below zero, that moves inversely with an index rate like London Interbank Offer Rate or 11th District Cost of Funds Index, usually with a leverage factor. The higher the leverage factor, the greater the price sensitivity.

Investment Grade

A minimum credit rating of Baa3 by Moody's Investor Service or BBB- for Standard & Poor's Corporation, and BBB- by Fitch. Investment grade ratings apply to issuers whose financial risk is relatively low and the probability of future payment relatively high.

Issuer

A state or local unit of government that borrows money through the sale of bonds and/or notes.

Interest Risk Rate

Interest Risk Rate is the price volatility produced by changes in the overall level of interest rates as measured by an option-adjusted duration.

Lehman Brothers Long Liability

A custom index developed by Lehman Brothers composed of dollar-denominated securities issued in the United States with a focus on longer maturity securities that have an issue size of at least \$200 million. The index has fixed weights of 30 percent mortgages, 24 percent investment grade corporates, 3 percent Yankee Sovereigns, 40 percent U.S. governments, and 3 percent high yield. The index is considered appropriate for CalPERS, due to the long nature of the CalPERS' liabilities.

Leverage

A condition where a portfolio's market obligation may exceed the market-value-adjusted capital commitment by the amount of borrowed capital (debt).

Leveraged Bank Loans

Loans made by banks that are typically partially secured by assets and are made to non-investment grade companies with a debt/EBITDA ratio greater than 3.5 and have a spread to LIBOR of greater than 250 basis points.

LIBOR

An acronym for London Interbank Offer Rate. These rates are based on rates quoted by 16 (for U.S. dollars) British Bankers' Association designated banks as being in their view, the offered rate at which deposits are being quoted to prime banks in the London Interbank Market at 11:00 a.m. London time. Of the 16 contributors, the four highest and four lowest rates are eliminated. An average of the remaining eight is taken.

Liquidity Risk

Liquidity Risk is the ease with which an issue or specified amount can be sold at or near prevailing market prices.

Moody's Investors Service

A nationally-recognized credit rating agency that grades the investment quality of bonds in a 9-symbol system. The ranges extend from the highest investment quality, which is Aaa, to the lowest credit rating, which is C. Securities rated Baa3 or greater are considered investment grade. Securities rated Ba1 or below are considered to be speculative.

Mortgage Backed Security (MBS)

A general term used to describe securities backed by mortgages. MBSs are broken down into four types of securities: mortgage pass-through, mortgage-backed bond, collateralized mortgage obligation (CMO), and stripped mortgage-backed bonds. Mortgage pass-throughs are pooled loans, typically issued by the Government National Mortgage Association, Federal National Mortgage Association, and Federal Home Loan Mortgage Corporation. Mortgage-backed bonds have mortgage loans as collateral, but the term and interest payments are fixed. CMOs are defined above. Stripped mortgage-backed securities have the principal and interest distribution altered from a pro rata distribution to an unequal distribution.

Municipal Bond

Bonds issued by any of the 50 states, the territories and their subdivisions, counties, cities, towns, villages and school districts, agencies (such as authorities and special districts created by the states), and certain federally-sponsored agencies (such as local housing authorities). There are two broad groups of municipals: 1) Public Purpose bonds, which remain tax-exempt and can be issued without limitation; and (2) Private Purpose Bonds, which are taxable unless specifically exempted.

Non-Investment Grade

Securities that are rated at or below Ba1 by Moody's, BB+ by Standard & Poor's, and BB+ by Fitch Ratings. These securities are also known as high yield, speculative, or "junk" bonds.

Option (on a Fixed Income Security)

The right or privilege to either buy (call option) or sell (put option) a designated amount of a particular fixed income security or class of securities during a time period ending on the expiration date of the option.

Option Adjusted Analysis

A method that strips out embedded options in securities such as callable bonds and mortgage-backed securities, enabling comparisons with other security types within a consistent framework.

Over-the-Counter (OTC)

The market for securities and traded products that are not listed on the major exchanges. OTC options are options with negotiated premium, strike price, and expiration date.

PIK (Payment in Kind)

Bonds or preferred stock whose interest is paid in the form of additional bonds or preferred stock.

Preferred Stock

Stock shares that represent a portion of ownership in a company, with the shares normally carrying fixed dividends. Sometimes the shares have voting rights, but not generally.

Prepayment Analysis

A method that stress tests Collateralized Mortgage Obligations by varying the prepayment assumptions to understand and anticipate how the structure changes in a constantly fluctuating interest rate environment.

Principal Component Analysis

A method that measures the movements of the yield curve in terms of three main factors: level, slope, and curvature.

Privately Placed

Privately Placed is a negotiated sale in which the securities are sold directly to institutional or private investors, rather than a public offering. Such placements are not registered with the Securities and Exchange Commission.

Ratings

Various alphabetical and numerical designations used by institutional investors, Wall Street underwriters, and commercial rating companies to give relative indications of bond and note creditworthiness. Standard & Poor's and Fitch use the same system, starting with their highest rating of AAA, AA, A, BBB, BB, B, CCC, CC, C, and D for default. Moody's Investors Services uses Aaa, Aa, A, Baa, Ba, B, Caa, Ca, C, and D. Each of the services use + or - or +1 to indicate half steps in between. The top four grades are considered investment grade ratings.

Real Return Relationships

The historical perspective looking at expected returns, less inflation with the expectation that the real return is mean reverting.

Reinvestment Risk

Reinvestment Risk is the uncertain future yield opportunities for investing funds that become available due to call, maturity, or coupon payments.

Scenario Analysis

Projects returns over a number of changing situations (such as interest rates, curve twists, spreads, etc.) and weighs each situation to arrive at an average expected return. This process allows comparisons to varying types of securities and portfolios.

Sector Risk

Sector Risk is the risk of holding sectors proportionally different from the index.

Security

Instrument that signifies an ownership position in a corporation (stock), a creditor relationship with a corporation or governmental body (bond), or rights to ownership such as those represented by an option, subscription right, and subscription warrant.

~~Senior Investment Officer of Fixed Income~~

~~The senior investment officer is responsible for all fixed income and reports to the chief investment officer of CalPERS.~~

Short Duration Program Fund

A program fund managed by CalPERS staff that is designed to earn a return premium versus traditional short duration assets through a modest increase in portfolio duration and by purchasing a broader universe of short duration securities than those typically available to traditional money market portfolios.

Short Selling

Selling securities that are not owned and buying them back later to: 1) take advantage of an anticipated decline in the price; or 2) to protect a profit in a long position.

Sovereign

A security issued by a foreign government or government sponsored agency.

Speculation

Assumption of risk in anticipation of gain but recognizing a higher than average possibility of loss.

Standard & Poor's

A nationally-recognized credit rating agency that grades the investment quality of bonds in a 10-symbol system. The ranges extend from the highest investment quality, which is AAA, to the lowest credit rating, which is D. Securities rated BBB- or greater are

considered investment grade. Securities rated BB+ or below are considered speculative.

Structure Risk

Structure Risk arises from the options implicit in bonds (e.g. callable and optional sinking fund bonds) or the rules governing cash flow that differs from expectations.

Swap

Private agreement between two companies to exchange cash flows in the future according to a prearranged formula.

Uncovered Call

A strategy in which an investor writes (sells) call options on the open market without owning the underlying security. This stands in contrast to a covered call strategy, where the investor owns the security shares that are eligible to be sold under the options contract.

Unleveraged Bank Loans

Loans made by banks that are typically partially secured by assets and are made to investment grade companies with a debt/EBITDA ratio less than 3.5 and have a spread to LIBOR of less than 250 basis points.

Watchlist Status

~~Indicates a level of concern, the degree of which shall be unique to each situation with the parameters specified in the relevant policy.~~

Yield Curve

Graph showing the term structure of interest rates by plotting the yields of all bonds of the same quality with maturities ranging from the shortest to the longest available.

Yield Curve Risk

Yield Curve Risk is the price changes induced by the changing slope of the yield curve.

Asset Class Glossary: Fixed Income

Policy: ~~Active International Fixed Income – Externally Managed~~

April 21, 2008

Bond

~~A unit of debt, \$1,000 of principal or par amount. For 200 years municipal bonds were sold in \$1,000 denominations. Since the mid-1970s the minimum bond denomination has been \$5,000; nevertheless, "A Bond" is bought, sold, referred to, and priced as if it were \$1,000.~~

Currency

The monetary unit of a sovereign state.

Custodian

A bank or other financial institution that provides custody of stock certificates and other assets of an institutional investor.

Derivative

An instrument whose value is based on the performance of an underlying financial asset, index, or other investment. Classes of derivatives include futures contracts, options, currency forward contracts, swaps, and options on futures.

Emerging Fixed Income Market

Countries not classified as having developed capital markets by internationally recognized index providers.

Fitch Ratings

A nationally-recognized credit rating agency that grades the investment quality of bonds in a 10-symbol system. The ranges extend from the highest investment quality, which is AAA, to the lowest credit rating, which is D. Securities rated BBB or greater are considered investment-grade. Securities rated BB+ or below are considered to be speculative.

Foreign Debt Policy

CalPERS' guidelines for permissible country debt investments, as most recently amended.

General Pension Fund Consultant

An individual or organization that provides specialized professional assistance to the CalPERS Board of Administration in determining the pension fund's asset allocation model or optimal combination of investments in order to maximize risk-adjusted investment returns in a manner consistent with the State's long-term pension liabilities.

Global Debt

Debt issued by a national government, subnational entity or corporation denominated in the U.S. dollar or other major currency and issued in major markets, typically New York or London, under the laws of those markets.

Investment Grade

A minimum credit rating of Baa3 by Moody's Investor Service or BBB for Standard & Poor's Corporation, and BBB by Fitch. Investment grade ratings apply to issuers whose financial risk is relatively low and the probability of future payment relatively high.

Issuer

A state or local unit of government that borrows money through the sale of bonds and/or notes.

Lehman Brothers International Fixed Income Index

The index covers the available market for foreign currency-denominated government bonds. It contains an all-inclusive universe of institutionally traded bonds. It includes all fixed rate bonds with a remaining maturity of one year or longer with amounts of at least the equivalent of U.S. \$25 million outstanding. The index excludes floating or variable-rate bonds, and private placement-type securities. The Index provides an accurate, replicable fixed income benchmark for market performance. It measures the total return performance of the foreign currency-denominated government bond market. The index captures returns in U.S. dollars.

Local Currency Debt

Debt issued by a national government, subnational entity or corporation denominated in local currency and issued in the local market, under local laws.

Monetary Policy

Refers to the management of the money supply to affect the macro economy through movements in the level of short-term interest rates, such as the Fed Funds and the Discount Rate, or supplying more credit to the banking system through open market operations.

External Manager

An outside money management firm retained under contract by CalPERS.

Moody's Investors Service

A nationally recognized credit rating agency that grades the investment quality of bonds in a 9-symbol system. The ranges extend from the highest investment quality, which is Aaa, to the lowest credit rating, which is C. Securities rated Baa3 or greater are considered investment grade. Securities rated Ba1 or below are considered to be speculative.

Reserve Currency Benchmark Country

Reserve Currency Benchmark Countries are those countries in the Lehman International Fixed Income Index whose currency is held in significant quantities by other national governments as part of their foreign exchange reserves. Reserve currencies typically consist of the U.S. dollar, the Euro, the British Pound, and the Japanese Yen.

Security

Instrument that signifies an ownership position in a corporation (stock), a creditor relationship with a corporation or governmental body (bond), or rights to ownership such as those represented by an option, subscription right, and subscription warrant.

Standard & Poor's

A nationally recognized credit rating agency that grades the investment quality of bonds in a 10-symbol system. The ranges extend from the highest investment quality, which is AAA, to the lowest credit rating, which is D. Securities rated BBB- or greater are

considered investment grade. Securities rated BB+ or below are considered speculative.

Structured Securities

An instrument that is secured by assets like receivables, mortgages, and bonds. Examples of structured securities are asset backed securities, mortgage backed securities, commercial mortgage backed securities, collateralized mortgage obligations, collateralized debt obligations, and collateralized loan obligations.